



## RESEARCH ARTICLE

### MALARIA AMANG BHARIA TRIBE OF PATALKOT, TAMIA, CHHINDWARA

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#### ABSTRACT

The study is based on the investigation of malaria status among Bharia tribe. Bharia tribe is mainly resided in patalkot valley of Chhindwara district. Geographically the patalkot valley is situated from 22.24 to 22.29 ° North and 78.43 to 78.50° and spread over an area of 79 square kilometer. The valley is horse-shoe shaped and surrounded by giant hills and forests give suitable environment for mosquitoes breeding. Malaria disease spreads by the bites of an infected female Anopheles mosquito. Fever, shivering, aches, and pain in the joints and headache are the early symptoms of malaria. This study is based on secondary data collection from PHCs, District malaria office and their analysis.

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## INTRODUCTION

This study is mainly concerned on malaria status among Bharia tribe of Patalkot Valley, Chhindwara (M.P.). In central India malaria is complex because of vast tracts of forests with tribal settlements. The tribal community contributed 30% of total malaria cases, 60% of total falciparum cases and 50% of total malaria deaths in the country (Singh *et al.*, 2009). Malaria is the most devastating disease in India nearly 100 million people suffered annually and close to 3.2 million died every year (Lal *et al.*, 2005). Malaria is a febrile disease caused by the four species of plasmodium parasites to host by the bite of an infected female mosquito of the genus Anopheles. Early symptoms of malaria include fever, shivering, aches, and pain in the joints and headache (Dolla *et al.*, 2006; Solanki Arvind and Choubey, 2014). In P. Falciparum malaria, infected red cells can obstruct the blood vessels of the brain, causing cerebral malaria, which is often lethal. Other vital organs can also be damaged, with fatal consequence. Malaria is a major health problem in India and its dynamics vary from place to place (Singh *et al.*, 2009; Dolla *et al.*, 2006; Solanki Arvind and Choubey, 2014; Shiv *et al.*, 2000; ICMR BULLETIN, 2004). In the study area mainly Plasmodium falciparum and Plasmodium vivax malaria are observed. The patalkot valley is

horse-shoe shaped and surrounded by giant hills and forests give suitable environment for mosquitoes breeding ([https://en.wikipedia.org/wiki/Patalkot,\\_India](https://en.wikipedia.org/wiki/Patalkot,_India)). The pathways to reach the villages located inside the patalkot valley are hilly and not easily accessible. The environmental factors of patalkot valley are responsible for malaria incidence among bharia tribe. Economically, Tribal community is the last ladder of socio-economic development and always suffered with malaria and other mosquitogenic diseases (Singh *et al.*, 2003; Choubey, 1989). In this work we are try to search the specific malaria cases on the basis of species, gender and different age groups among Bharia tribe for the duration of 2006 to 2013. The study of malaria is based on secondary data collection due to extensive field work. The secondary data on malaria disease are collected from District malaria office and primary health centers (PHCs) of patalkot vally of tamia block.

## MATERIALS AND METHODS

Chhindwara is a tribal district of the state Madhya Pradesh. It is situated from 21°28 to 22°49' north Longitude and 78°40' to 79°24' East Latitude and spread over an area of 11,815 sq. km. Location map of Tamia and patalkot valley is given in figure-1. Tamia is situated between 22° 20' northern latitude and 78° 40' in eastern longitude. It extends over an area of 1268.02 km, which is about 9.32 % of the district geographical area. It has more than 85% unique tribal population of bharia tribe.

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**Figure 1. Location map of patakot valley**  
(<http://www.patakot.com/how-to-reach-patakot/>)

The Patakot valley of tamia block is a treasure of herbal wealth and resided by bharia tribe. Geographically, the patakot valley is situated from 22.24 to 22.29 ° North and 78.43 to 78.50 ° East. It is a shoe-shaped valley and surrounded by hills and forests. The average temperature of the region lies in between 20° C to 39° C in summer and 9° C to 25° C in winter. The Doodhi and his supporting rivers flow in the study region. The surroundings of patakot valley and their environmental conditions are suitable for malaria incidence. Bharia is a Dravidian tribe. The Bharia tribe is mainly concentrated in the Patakot valley and its adjoining regions of tamia block. It is one of the scheduled tribes of the Indian subcontinent. The Bharia people have adapted to the profession of shifting cultivation. They are also engaged in collection of various forest products like roots, fruits and various medicinal plant collections. They also work as labourers in the forest department. A recent survey has thrown some light on the variety of occupation i.e. about 38.7 percent of the people are farmers, agriculture labour comprises 37 percent. The rest around 24.3 percent work as forest labourers ([https://en.wikipedia.org/wiki/Patakot,\\_India](https://en.wikipedia.org/wiki/Patakot,_India)). Bharia tribe has set up their own system of treatment for all the health hazards and illness.

They are also known by another name bhumia meaning “Lord of soil”. Bharia tribe are not interested in education and learning only 11.6% passed primary education and about 66.4% of the Bharia tribes are illiterate. They live in beautiful households built by their own hands with their nuclear family. Bharia people are highly religious by nature and strongly follow birth and funeral rite. This study is based on secondary data and their analysis.

## RESULTS AND DISCUSSION

The study of malaria cases is based on specific patterns like species, gender and age wise malaria cases and their distribution in eight year duration from 2006-2013. The study shows the trends of malaria existence and its variation year by year. The malaria cases increase from 2006 to 2010 and decrease from 2010 to 2013. Though the anti-malarial activities are running in the study area, the malaria cases increase almost six times from 2006 to 2010 and then gradually decrease. The reason of sudden increase in malaria cases is that the resistance capacity developed in mosquitoes against the spray chemicals and in malaria parasite against anti malarial drugs. The drugs distributed by malaria workers are also ineffective to malaria -parasite, hence malaria remain a major health problem of bharia tribe up to 2010 (Table 1). The use of powerful drugs and anti-insect sprays in the study area, malaria cases decrease gradually.

The species wise distribution of malaria cases are shown in Table 1. It is cleared that the Pf (Plasmodium Falciparum) malaria cases are very large and nearly equals to total malaria cases throughout the study period. The Pv (Plasmodium vivax) malaria cases are very few in numbers. Hence it is cleared that the bharia tribe is more susceptible to pf malaria.

The Table 2 shows age wise malaria cases. The malaria cases of age group 15 & above years are more than other age groups i.e. the adult age group is more sufferer of malaria. The age group 5-15 ranks second while 0 to 5 years age group is ranks last.

**Table 1. Species wise malaria cases**

S. No.	Species	Years							
		2006	2007	2008	2009	2010	2011	2012	2013
1.	Pv	5	8	2	14	32	14	11	6
2.	Pf	125	158	99	211	709	549	311	237
	Total	130	166	101	215	741	563	321	245

**Table 2. Age wise malaria cases**

S. No.	Age groups	Years							
		2006	2007	2008	2009	2010	2011	2012	2013
1.	0-5	9	8	8	11	87	69	55	30
2.	5-15	22	36	23	48	283	198	254	163
3.	15 & above	119	152	70	182	571	596	349	252
	Total	130	166	101	215	741	563	321	245

**Table 3. Gender wise malaria cases**

S. No.	Gender	Years							
		2006	2007	2008	2009	2010	2011	2012	2013
1.	Female	98	121	43	113	433	371	295	195
2.	Male	52	75	58	128	507	492	363	250
	Total	130	166	101	215	741	563	321	245

The reason is that the adults are working in agriculture fields and forests, hence spent more time in mosquitogenic conditions. Another reason is that the tribal people wear less cloths, hence maximum part of their body is exposed for mosquito bites. The gender wise distribution of malaria cases is given in table 3. The gender wise analysis shows that the female malaria patients are more than male patients. The reason is that the development of resistivity in mosquitoes against anti-malaria drugs makes them more susceptible to men.

### Conclusion

Bharia tribe is one of the scheduled tribe of Indian subcontinent and mainly resides in the Patalkot valley of Tamia block, Chhindwara. The study shows that malaria patterns among Bharia tribe from 2006-2013. The total malaria cases suddenly rise during 2010 and almost six times of 2006 malaria cases due to development of resistance in mosquitoes against anti-malarial drugs. The distribution patterns show that Pf cases are more than Pv cases. The adult age group is more suffered with malaria specially men due to their clothing habits and the environmental conditions of their working place. Hence it is necessary to create awareness among bharia people about the susceptible sectors of their population to malaria. Some awareness and alert camps are arranged to a pray knowledge about protection methods against mosquito bites with spray chemicals and drugs to prevent malaria.

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